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This paper surveys and analyzes biographic data from the first SURVEY OF EDUCATIONAL PLANS AFTER HIGH SCHOOL (Bureau of Testing, University of Washington) administered in 1966-67 to more than 7500 high school seniors in the state. The characteristics of students planning to attend 2-year colleges, state or private colleges, and state universities, subdivided by sex, are compared through a series of charts. Biographic variables such as parents' education, father's occupation, area of residence, size of high school graduation class, time of decision to attend college, high school subjects most and least enjoyed, high school study habits, anticipated college study habits, conditions favorable to learning, occupational plans, choice of college major, educational aspirations, and marriage plans are examined. It is apparent from these data that different college populations are contrastable, not just in terms of traditional academic measures such as grades and tests, but also in socioeconomic background, interests, values, and future plans. (Author/JS)

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Biographic Survey, Part II: Biographic Comparisons of Students Planning to Attend Different Types of College Institutions

Gary F. Beanblossom

This paper surveys and analyzes biographic data from the first Survey of Educational Plans after High School administered by WPC in 1966-67 to more than 7,500 high school seniors in the state. The biographic characteristics of students planning to attend two-year colleges, state or private colleges, and state universities, subdivided by sex, are compared through a series of charts. Biographic variables such as parents' education, father's occupation, area of residence, size of high school graduation class, time of decision to attend college, high school subjects most and least enjoyed, high school study habits, anticipated college study habits, conditions favorable to learning, occupational plans, choice of college major, educational aspirations, and marriage plans are examined. It is apparent from these data that different college populations are contrastable not just in terms of traditional academic measures, such as grades and tests, but also in socio-economic background, interests, values, and future plans.

Introduction. This is the second of a three-part report that surveys and analyzes biographic data from the first Survey of Educational Plans after High School administered by Washington Pre-College (WPC) to high school seniors in 1966-67 (C. E. Lunneborg, 1966). There were more than 7,500 participants who, as previously reported, bear a close similarity in test score achievements to the total group taking the WPC Test (Beanblossom, 1969). Approximately 18 per cent of the college bound population planned to attend a university, 27 per cent a state or private college, and 46 per cent a community or other

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Bureau of Testing Project 0468-100

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two-year college. About 9 per cent were undecided about which college to attend. Differences between students selecting different types of college institutions were sharp and distinct, with university students ranking first, state and private college students second, and community college students third on each of the 20 cognitive variables. Part II again separates the group into the four types of college institution choices (including undecided), but this time compares these choices via selected biographic variables.

The Biographic Variables. Fifteen biographic variables from the original 46-item questionnaire have been drawn together and displayed in the following 15 charts. Subdivisions were made on the basis of institutional type and sex. For each subdivision (e.g., females planning to attend community colleges) percentages for each biographic category are shown. In some instances item response categories from the original survey were combined so that comparisons would be more meaningful. Percentages were rounded to the nearest whole per cent to enhance clarity of presentation. Questionnaire items which failed to discriminate between institutional types such as birth order, amount of expected employment while attending college, previous job experience, and number of primary and secondary schools attended, were not included. Items of a more trivial nature, such as whether a student has his own room in high school and extent of participation in high school activities, were also excluded. Several items were eliminated for lack of variability. This does not mean that none of the excluded items will prove to be promising predictors of academic success. However, since academic aptitudes and past achievements are highly associated with the type of college institution a student plans to attend, the 15 selected items, since they do differentiate

between institutional types, may very well possess the greatest research potential in widening the territorial scope of the study of academic success and its correlates.

The items can be subsumed under three topical headings: (1) social and family milieu--parents' education, father's occupation, area of residence, size of high school graduation class; (2) retrospective data--time of decision to attend college, high school subjects most and least enjoyed, high school study habits, anticipated college study habits, conditions favorable to learning; (3) prospective data--occupational plans, choice of college major, educational aspirations, marriage plans.

SOCIAL AND FAMILY MILIEU

Father's Occupation. Anne Roe's eight occupational groups were used to classify father's occupation (Roe, 1956, pp. 169-248). A brief synopsis of each follows:

> Service--attending to the needs and welfare of others through guidance, domestic, personal, or protective services.
>
> Business contact--face-to-face personal persuasion to sell commodities, services, investments.
>
> Organization--managerial, ownership, or white-collar job in business, industry, or government.
>
> Technology--concerned with production, maintenance, and transportation of commodities and utilities; includes engineering, communication, crafts, machine trades.
>
> Outdoor--agriculture, fisheries, forestry, mining and kindred occupations.
>
> Science--research in all fields, mathematicians, doctors, college teachers in science, nurses, dentists, veterinarians, weather observers, etc.

General Cultural--occupations in education, journalism, law, ministry, linguistics; includes all elementary and high school teachers.

Arts and Entertainment--uses special skills in creative arts, entertainment, or sports.

More than one-half the occupations shown in Chart 1 are either organization or technology. Among males planning to attend community colleges (CC) there are more than twice as many technology occupations as organization occupations (35 per cent to 15 per cent) but among those who plan to attend state or private colleges (SP) the gap is narrowed substantially (28 per cent to 20 per cent). The respective percentages for male students planning to attend state universities (SU) are 27 and 22. Thus these two occupational groups differentiate best between the CC's and SP's. The same general patterns are found among females, except here the technology-organization is most disparate between the SP's and SU's. This is more a function of a decrease in technology percentages as one moves from CC to SU rather than an increase in organization occupations.

Service and business contact occupations do not seem to affect college choices. Outdoor occupations are somewhat more prevalent among CC's than SU's. The opposite is true with occupations requiring high levels of education, such as science and general cultural. Though the latter occupations are rare, they differentiate quite well between groups, especially science; proportionally about four times as many female SU's have fathers engaged in science occupations as do female CC's (8 per cent to 2 per cent).

An extensive literature has been compiled showing how father's occupation can determine who goes to college, but as these data indicate it can also influence the type of college attended. The college choices of

women seem to be no less influenced by father's occupation than those of men. As will be seen later, a preponderant majority of CC women do not plan to obtain a bachelor's degree--rather, a short period of vocational job training is of foremost concern. SP women, on the other hand, are more likely to be preparing for public school teaching positions, with SU women aspiring toward science occupations and liberal arts curricula. These noteworthy differences are likely to be borne out by the usual stratification measures.

Father's Education. From Chart 2 the very real impact of father's education on institutional choice can be seen. No less than 30 per cent of fathers of CC males did not finish high school and only 14 per cent attained a college degree. For SU males the percentages are almost reversed, 30 per cent graduating from college and 17 per cent not finishing high school. The percentage differences are even more accentuated for women. Bor both sexes the level of father's education shows a perceptible linear increase from CC to SP to SU.

Mother's Education. Though influential, mother's education is less so than father's education, even for females. Among females the proportion of college graduate mothers shows a steplike increase from 10 per cent for CC's, to 19 per cent for SP's, and to 24 per cent for SU's. For the males there is virtually no difference between SP's and SU's; those planning to attend community colleges, however, have mothers possessing considerably less education. At the university level, mothers of women students have attained substantially higher levels of education than mothers of men students. In general it would seem that parents' education is a more vital factor in determining whether a daughter attends college, and where she attends, than whether and where a son attends college.

Area of Residence. Chart 4 dichotomizes home town populations into those with 25,000 or more (roughly the ten largest cities in the state of Washington) and those under 25,000. For both sexes the SU population is more urbanized though this may be due more to the location of the college institutions rather than the impact of urban and rural social climates on educational values. There are negligible differences between the CC and SP groups. Women college aspirants, as a whole, are more likely than the men to live in an urban environment. Population is, of course, a rather cursory indicator of the constellation of characteristics that are typically associated with the rural and urban modes of life, especially when the population categories are so broadly defined.

Size of High School Graduation Class. About two-thirds of the male SU's have more than 250 students in their high school graduation class whereas more than three-fourths of the female SU's fall in this category. Students from smaller high schools comprise a greater bulk of the SP and CC groups, particularly the latter. These data are presented in Chart 5. It is generally conceded that the larger high schools possess better facilities, better teachers, and more versatile and higher quality curricula. However, larger high schools are also generally situated in the large metropolitan areas where the populace is better educated, upwardly mobile, and more inclined to view educational attainment in favorable terms. Thus father's occupation, parents' education, area of residence, and size of high school are closely interlocking facets of the class-structured social and family milieu which provide the raw ingredients from which decisions about whether and where to attend college are fertilized.

RETROSPECTIVE DATA

Charts 6 through 11 deal for the most part with past high school experiences.

Time of Decision to Attend College. As seen in Chart 6, students intending to go to college typically arrive at this decision long before high school graduation, and not uncommonly before the ninth grade. Students planning to attend state universities are much more likely to have made an early decision to attend college than SP students, who in turn make earlier decisions than CC students. Time of decision is not affected by sex, except that female SP's make earlier decisions than male SP's. The mushrooming effect of the community college system in recent years could have encouraged many students to attend college who might not have otherwise. Yet even among CC students about 40 per cent had made college decisions by the time they finished junior high school. Again, one senses the influence of earlier experiences on college decisions.

Conditions Favorable to Learning. In response to the question "Where do you feel you learn the most?" the most frequently endorsed choice was "in school," followed by "talking with others," and "working by myself at something interesting." The reactions varied widely by sex and college type. Women more often endorsed "talking" and "traveling" than men and were less disposed to selecting "on a job" and "working by myself at something interesting." Males were somewhat more likely to choose "school" than females except at the CC level. Thirty per cent of the CC males, 38 per cent of the SP males, and 43 per cent of the SU males felt they learned the most in school. Interestingly, such is not the case with women; that is, college

type has no bearing on the endorsement of "school" as the most favorable learning condition for women. SP and SU women respond to this item in much the same manner, while CC women place more value on job experience and much less value on social interaction. These data are presented in Chart 7.

Time Spent Studying. Not unexpectedly, acknowledged amount of high school study time, as seen in Chart 8, is least among the CC students and greatest among the SU students. Judging from their questionnaire responses females spend more time studying than males.

High School Subjects Most and Least Enjoyed. Charts 9 and 10 depict subjects most and least enjoyed for males and females, respectively. Subject matter likes and dislikes are very dissimilar in some respects for students planning to attend the three types of institutions. Among male CC's shop is the second most commonly expressed favorite subject, but among SP and SU males it is far down the list. On the other hand only 4 per cent of CC males cite English as their favorite subject, compared to 11 per cent of SU males, and 15 per cent of SP males. Math is also low in popularity among CC's. The SP and SU males are differentiated primarily through math and science interests, high interest most typifying the state university males. SP males were slightly more likely to endorse English and foreign language as favorite subjects. The most distasteful subject is foreign language--more than one-fourth of the male students singled it out as the least enjoyed. These low ratings are even more common among SU males than CC or SP males. The closest competitor is English; between them, foreign language and English account for close to 50 per cent of the least enjoyed subject responses. Institutional differences are most conspicuous among the most enjoyed

subjects; there is more consensus concerning the least enjoyed. Science and history or social studies seem to be the most popular male subjects in general.

Sex differences in interests are clearly visible in Chart 10. English, a subject unattractive to males, is the most enjoyable subject among females. History or social studies runs a strong second but also shows rather high "least enjoyed" ratings, unlike English. Among female subjects most enjoyed, the more academically oriented subjects, e.g., foreign language, history or social studies, math, sciences, increase in appeal from those with CC plans to those with SU plans (English being an exception), while subjects like home economics, art, music, and physical education become less popular. Mathematics is common enemy number one for the women; about three out of every eight women find math their least enjoyable subject.

Anticipated Difficulties with College Study Habits. CC students perceive somewhat more difficulty with college study habits than SP students--SU students expect the least difficulty. Women expect slightly less difficulty than men. For all groupings the modal response category, "moderate amount," far outstrips the frequency of other responses. These results are not easily interpretable using an absolute standard, since the curricula and the evaluational standards vary widely between the colleges. There also exists the question of how realistic are impressions of high school seniors concerning college expectations. Then too, many of the community college students may have intended to enroll as part-time students to pick up a few vocational courses here and there to complete the additional training they may need to enter a manual trade or acquire a secretarial position. These contingencies mean that judgments of anticipated difficulty are troublesome to assess meaningfully.

PROSPECTIVE DATA

Educational Aspirations. Perhaps this variable differentiates between the college populations better than any other. As observed in Table 12, well more than one-half of the CC's have no plans to complete a bachelor's degree; but there exist strikingly different proportions by sex, 46 per cent of the males and a huge 70 per cent of the females. These percentages swiftly decline for the SP and SU groups. Even so, about 48 per cent of all females planning to attend college are not seeking a four-year degree. Even at the SP level almost one-third of the women do not intend to work toward a bachelor's degree. Since a woman's major gratifications are still largely derived from her familial role rather than her career, the social and intrinsic rewards of higher education become more salient. At the opposite end of the spectrum are SU males who aspire to some lofty and, perhaps in many cases, unrealistic educational goals. Almost 30 per cent aspire to no less than a Ph.D and another 27 per cent to a master's degree; in fact, the state university male willing to settle for the conventional four-year bachelor's degree appears to be a vanishing breed. These radically different educational aspirations for students planning to attend different types of colleges suggest the danger of overreliance on those results from educational psychology that treat the college bound population as relatively homogeneous with respect to educational values and aspirations.

Major Course Plans. Business and vocational course plans are indicated by about one-third of the CC group; probably many of these students view their community college education as terminal. There nevertheless are a sizable number of CC males planning on engineering and CC females planning

on education; these students may be more likely to transfer eventually to a four-year institution. There is also a considerable amount of indecision about major course plans--indeed, this is the modal response for CC males. For both sexes SP's are oriented toward education. This is hardly surprising in view of the historically traditional educational role of the three major state colleges, i.e., teacher's training. Engineering, natural science and mathematics are the major courses of interest to the SU males; about 46 per cent of them plan to concentrate their studies in one of these areas. SU females are a diverse group, education being the most popular choice, but much less so than among the SP's. They show somewhat more inclination than other females to pursue humanities, social science, natural science and mathematics. SU females also show a rather high "undecided" percentage. It might be hypothesized that definiteness of course plans among females is inversely related to the educational quality of the institution they plan to attend. The converse might very well be true for males.

Occupational Plans. Because of the congruence between major course plans and occupational plans, many of the results shown in Chart 14 are predictable. The Roe occupational categories reveal the most frequently chosen occupations to be technology, science, and general cultural. General cultural (which includes public school teaching) is prominent at the SP level (43 per cent of the females and 24 per cent of the males). Almost one-third of the SU males plan to prepare for science occupations; this compares with 21 per cent of the SP males and 13 per cent of the CC males. Technology and outdoor are most popular among CC males. Service occupations are uniformly popular among females, but the typical business occupations, business contact and organization, are more often chosen by community college

females. The SP and SU females show similar percentages across occupational categories, except for general cultural and science, the former showing a 9 per cent difference in favor of SP's, and the latter a 10 per cent difference in favor of SU's. Because these categories are broadly defined there are fewer "undecideds" regarding occupational plans than course plans. When a comparison is made between the student's occupational choice and father's occupation (see Chart 1) a very conspicuous movement can be observed toward science and general cultural occupations and away from business contact, organization, and outdoor occupations.

Marriage Plans. Over 80 per cent of the respondents, when queried about marriage plans, either "had no marriage plans" or planned to marry "after college graduation." Significantly more females than males had already developed some plans regarding marriage which is understandable since females marry younger and have a greater portion of their total lives immersed in their future family roles. It must be remembered that these students were only 16 or 17 years old at the time they filled out the questionnaire. The percentage of girls planning to marry early, i.e., "before college graduation," is about double that of the males, though girls with plans are more apt to plan a post-graduation marriage. Early female marriage plans are definitely related to college type; 25 per cent of the CC's, 19 per cent of the SP's, and only 12 per cent of the SU's plan early marriages. This trend is much less obvious for males.

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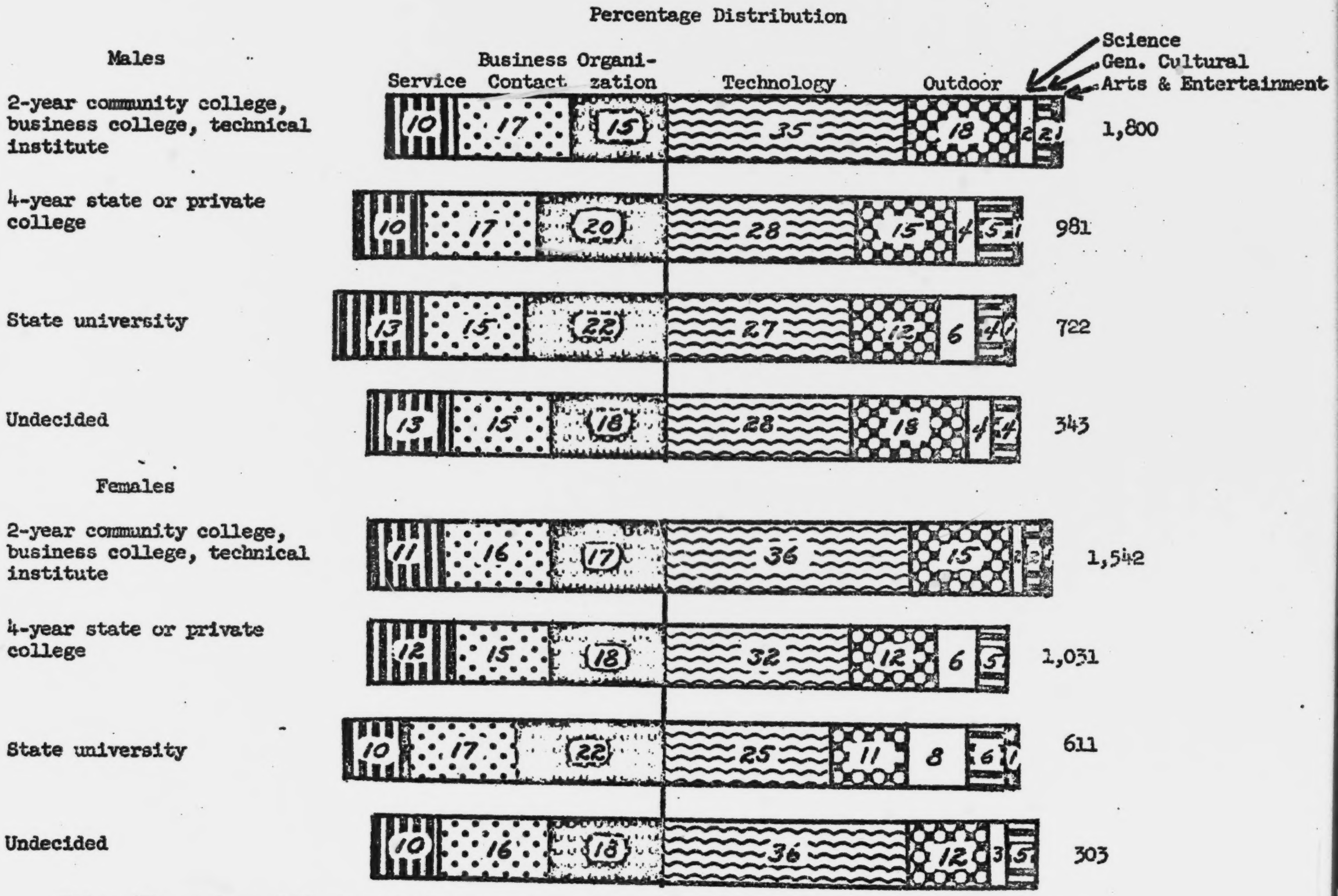
Beanblossom, G. F. Biographic survey, part I: high school achievement and aptitude comparisons of students planning to attend different types of college institutions. Seattle: Bureau of Testing, University of Washington, 1969. (Duplicated report)

Lunneborg, C. E. A survey of educational plans after high school. Seattle: Bureau of Testing, University of Washington, 1966. (Duplicated report)

Roe, A. The psychology of occupations. New York: John Wiley & Sons, 1956.

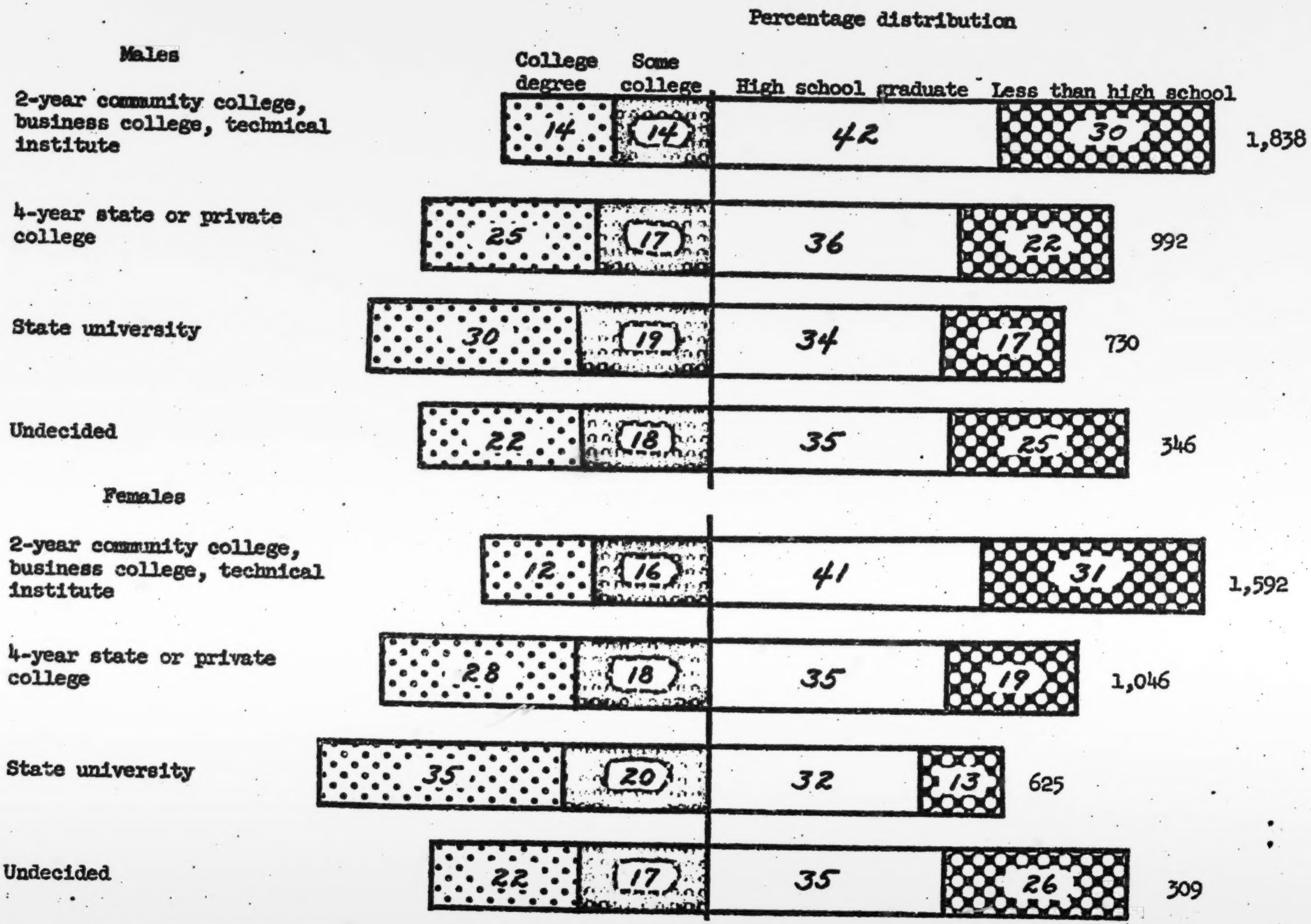
Chart 1

Father's Occupation of High School Seniors Planning to Attend Different Types of College Institutions, by Sex



Note.--The numbers following the bars are the number of cases on which percentages are based.

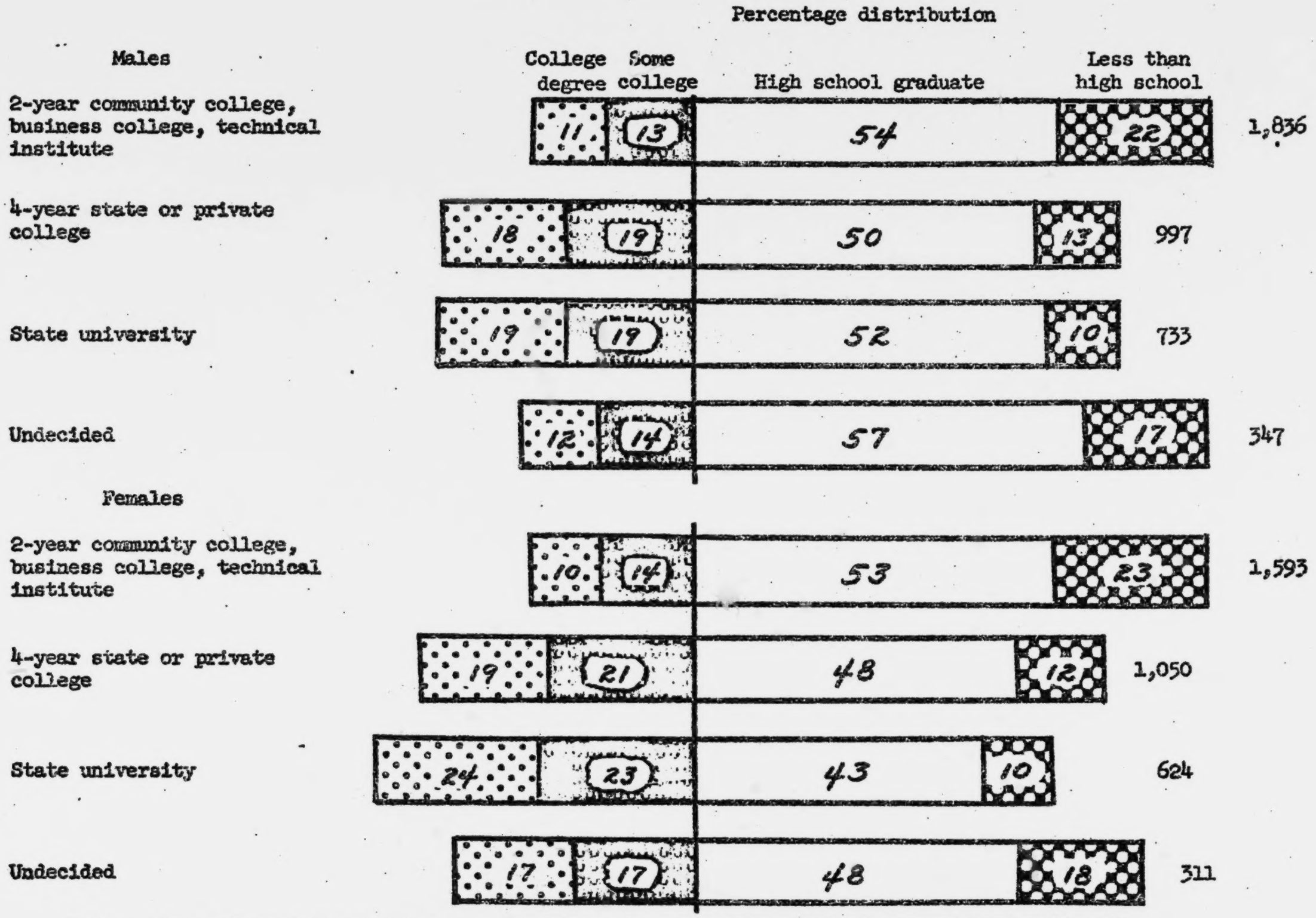
Father's Education of High School Seniors Planning to Attend Different Types of College Institutions, by Sex



Note.--The numbers following the bars are the number of cases on which percentages are based.

Chart 3

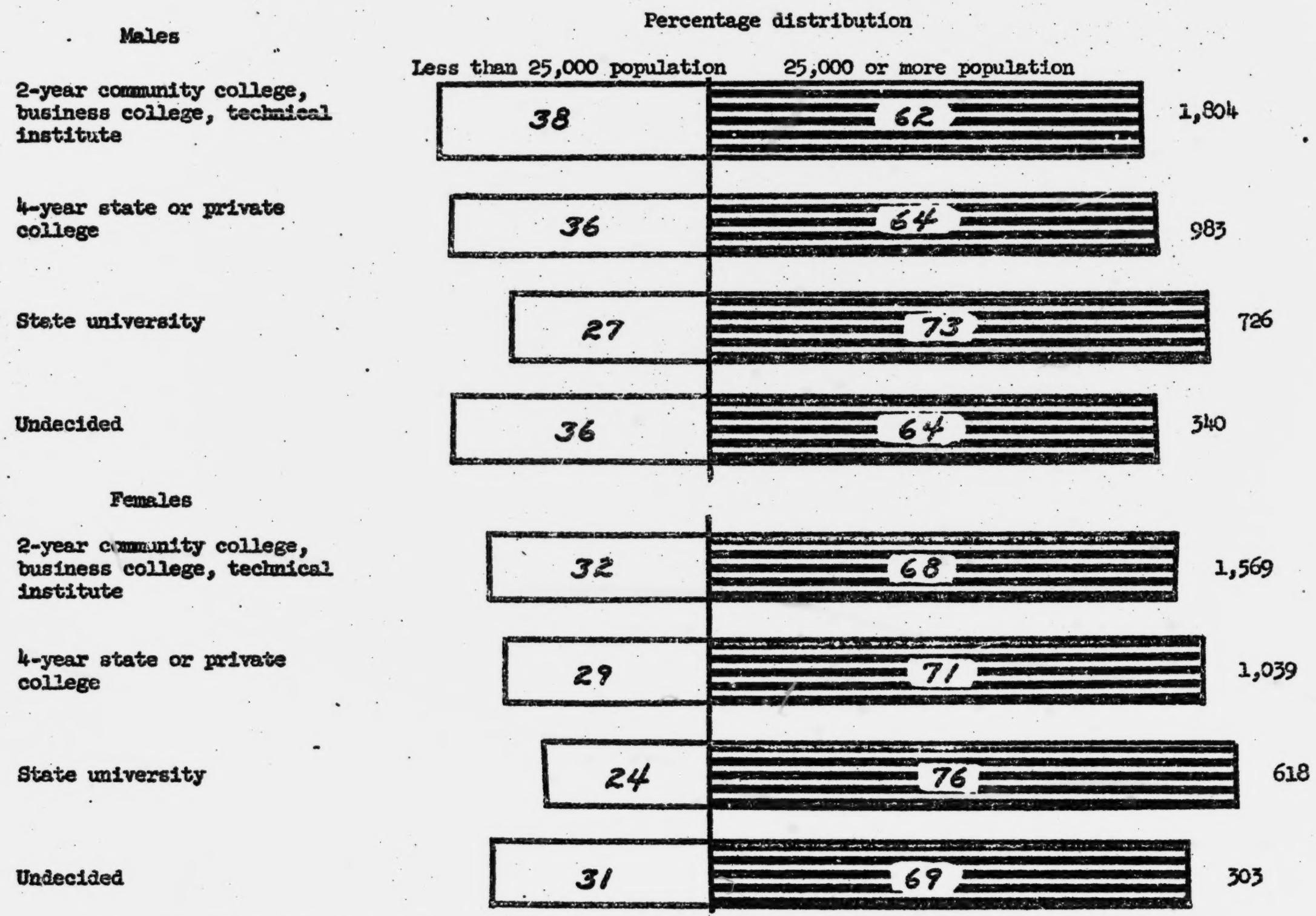
Mother's Education of High School Seniors Planning to Attend Different Types of College Institutions, by Sex



Note.--The numbers following the bars are the number of cases on which percentages are based.

Chart 4

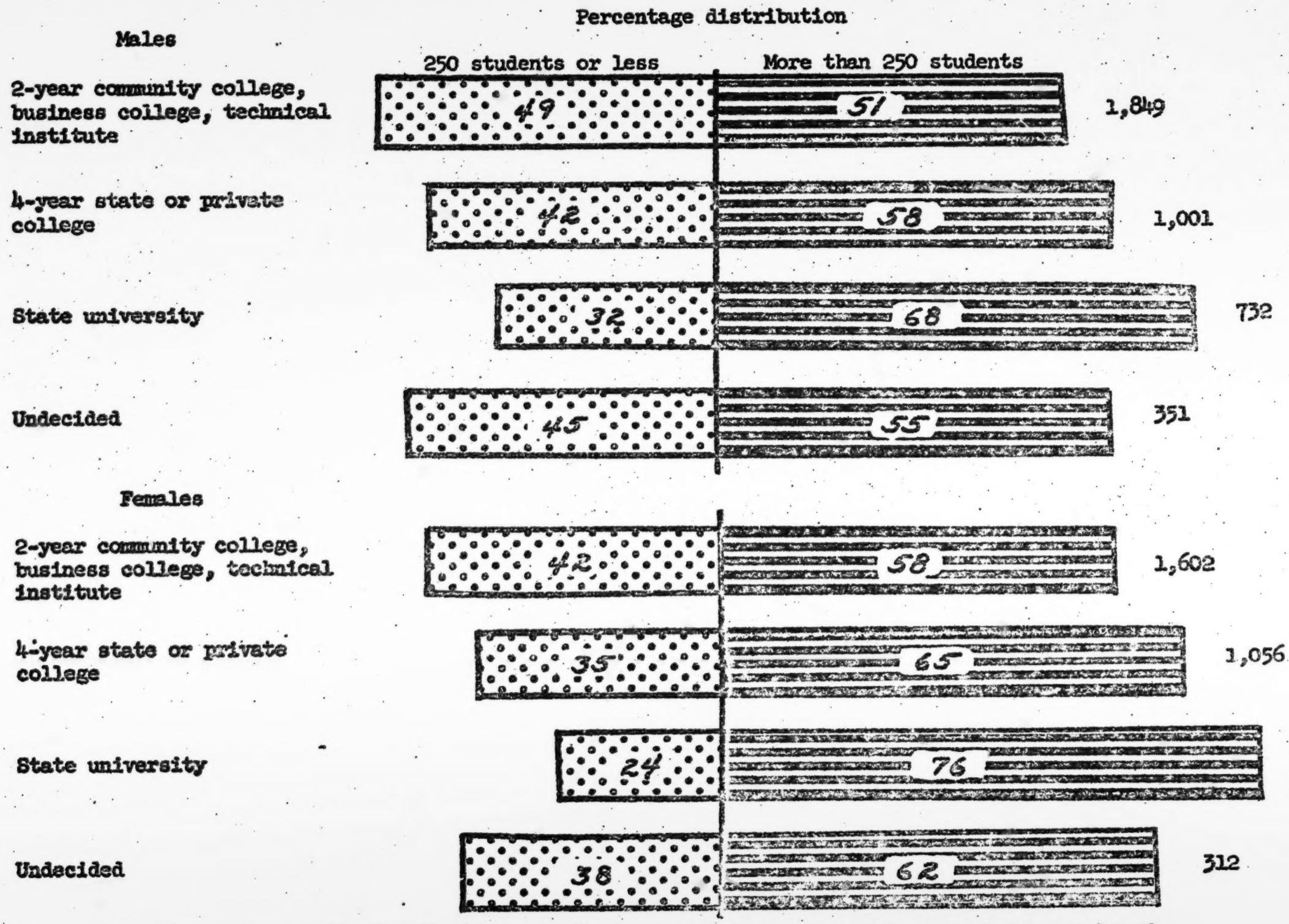
Size of City of Residence of High School Seniors Planning to Attend Different Types of College Institutions, by Sex



Note.--The numbers following the bars are the number of cases on which percentages are based.

Chart 5

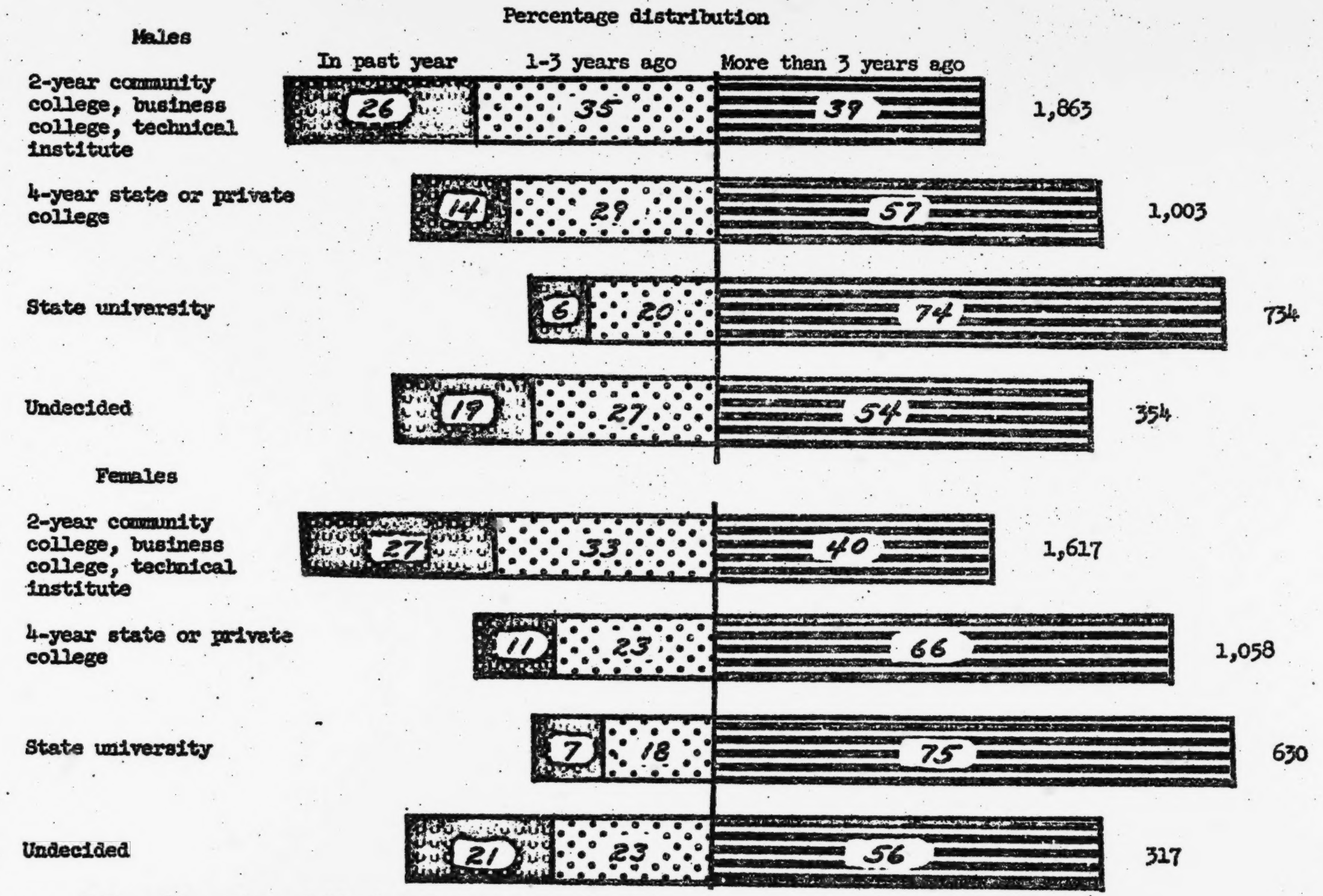
Size of High School Graduation Class of High School Seniors Planning to Attend Different Types of College Institutions, by Sex



Note.--The numbers following the bars are the number of cases on which percentages are based.

Chart 6

Time of Decision to Attend College among High School Seniors Planning to Attend Different Types of College Institutions, by Sex

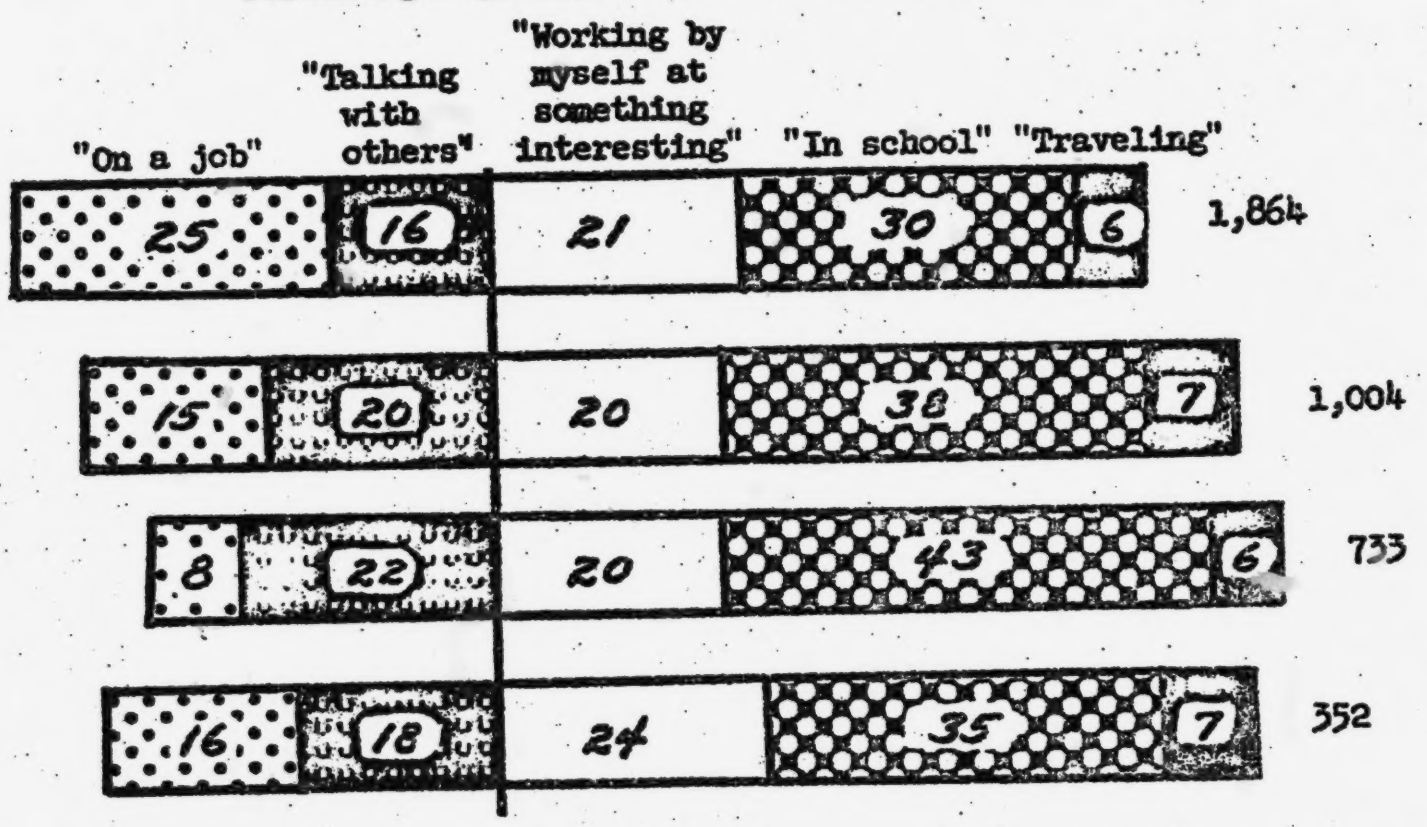


Note.--The numbers following the bars are the number of cases on which percentages are based.

Attitudes Toward Conditions Favorable to Learning among High School Seniors Planning to Attend Different Types of College Institutions, by Sex

Question: "Where do you feel you learn the most?"

Percentages giving indicated responses*

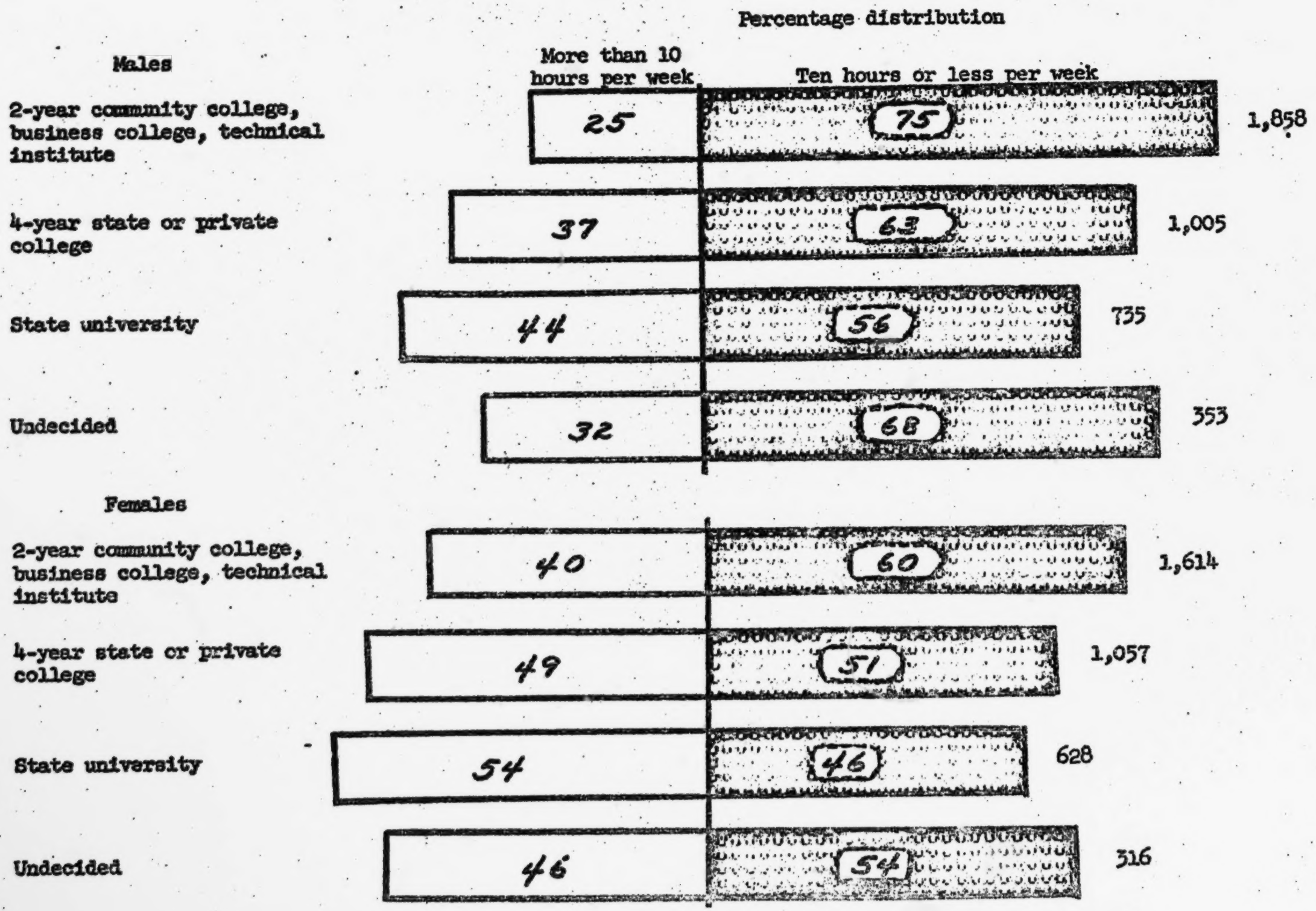


Note.--The numbers following the bars are the number of cases on which percentages are based.

*"At home with my family" was not included because of very small percentages.

Chart 3

Amount of Time Studied in High School by High School Seniors Planning to Attend Different Types of College Institutions, by Sex

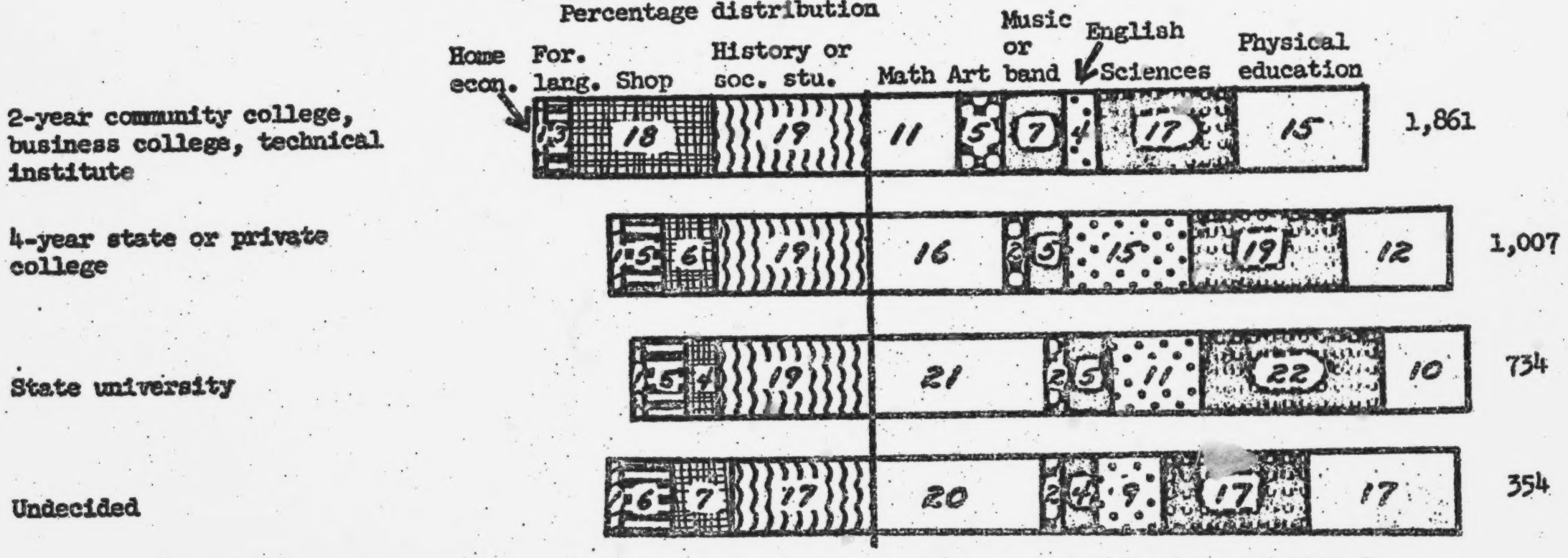


Note.--The numbers following the bars are the number of cases on which percentages are based.

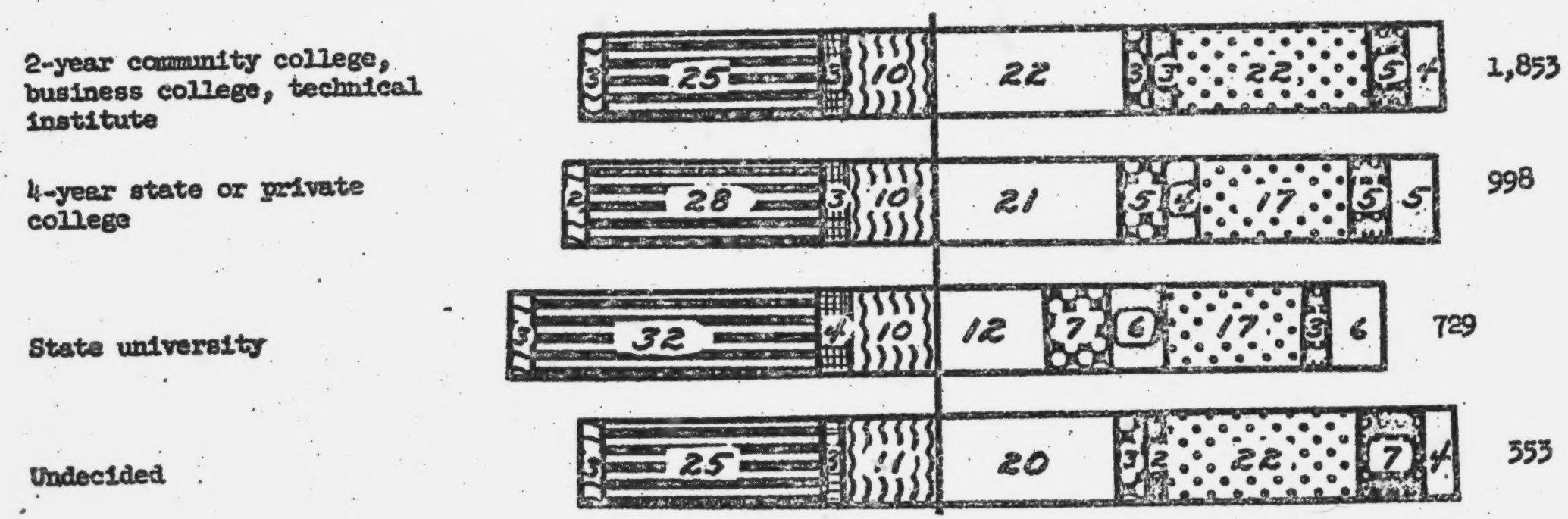
Chart 5

High School Subject Most Enjoyed among High School Senior Males Planning to Attend Different Types of College Institutions

Percentage distribution

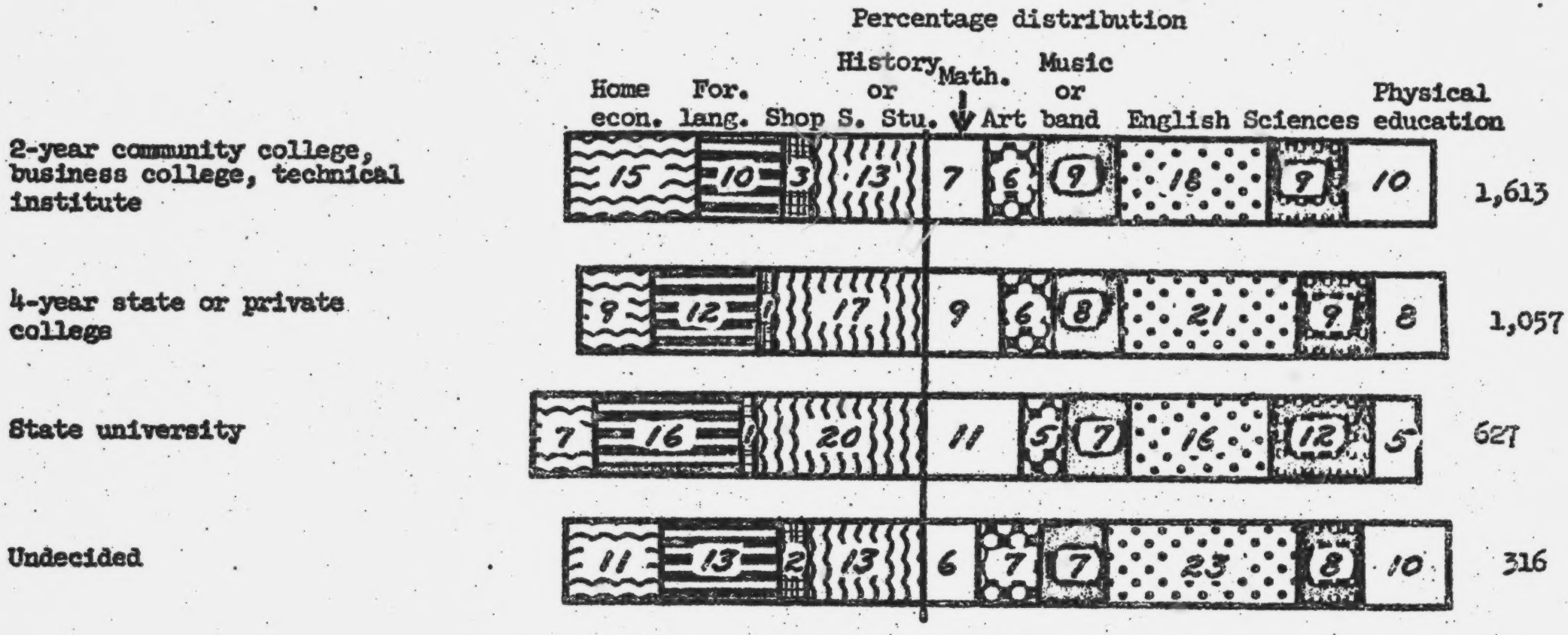


High School Subject Least Enjoyed among High School Senior Males Planning to Attend Different Types of College Institutions

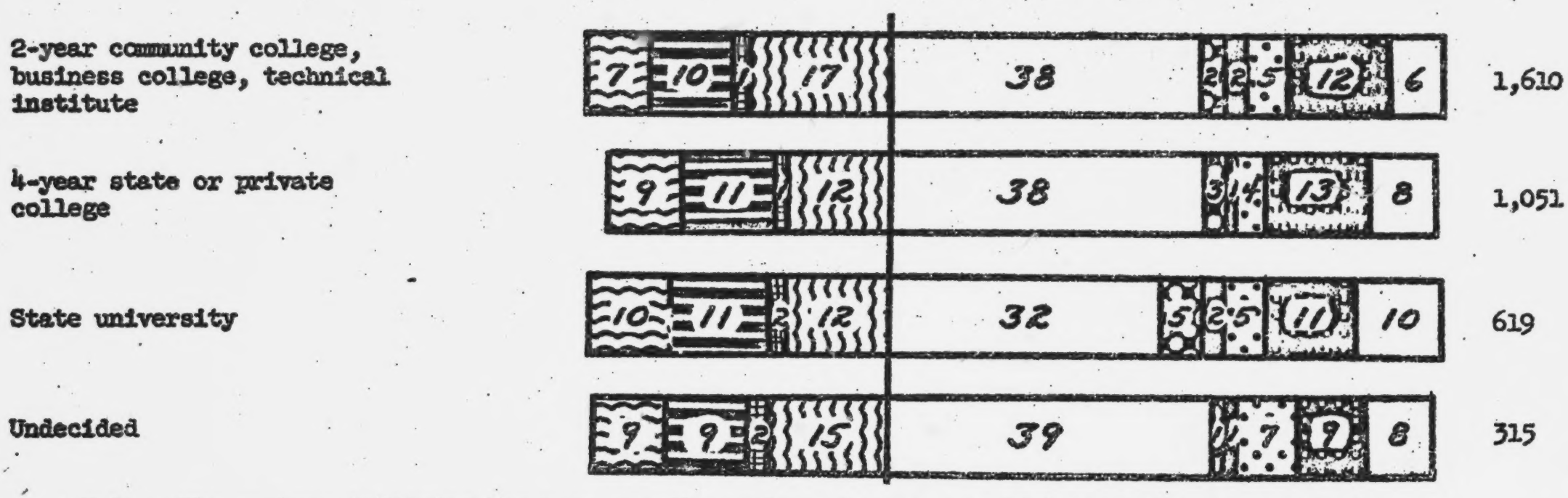

2-year community college, business college, technical institute
3 25 3 10 22 3 3 22 5 4
1,853
4-year state or private college
2 28 3 10 21 5 4 17 5 5
998
State university
3 32 4 10 12 7 6 17 3 6
729
Undecided
3 25 3 11 20 3 2 22 7 4
353

Note.--The numbers following the bars are the number of cases on which percentages are based.

High School Subject Most Enjoyed among High School Senior Females Planning to Attend Different Types of College Institutions



High School Subject Least Enjoyed among High School Senior Females Planning to Attend Different Types of College Institutions

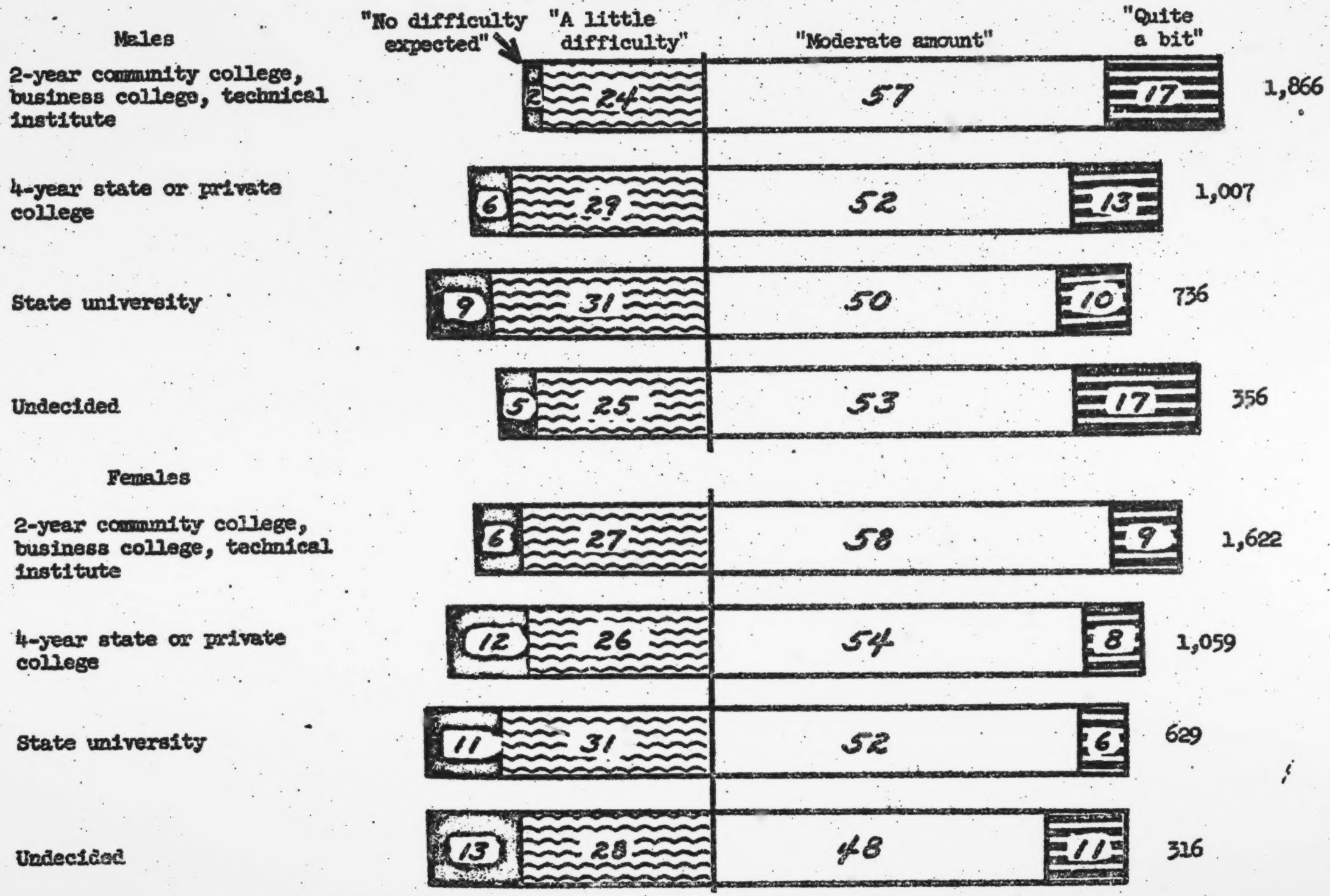

2-year community college, business college, technical institute
7 10 1 17 38 2 2 5 12 6
1,610
4-year state or private college
9 11 12 38 3 4 13 8
1,051
State university
10 11 2 12 32 5 2 5 11 10
619
Undecided
9 9 2 15 39 7 9 8
315

Note.--The numbers following the bars are the number of cases on which percentages are based.

Chart 11

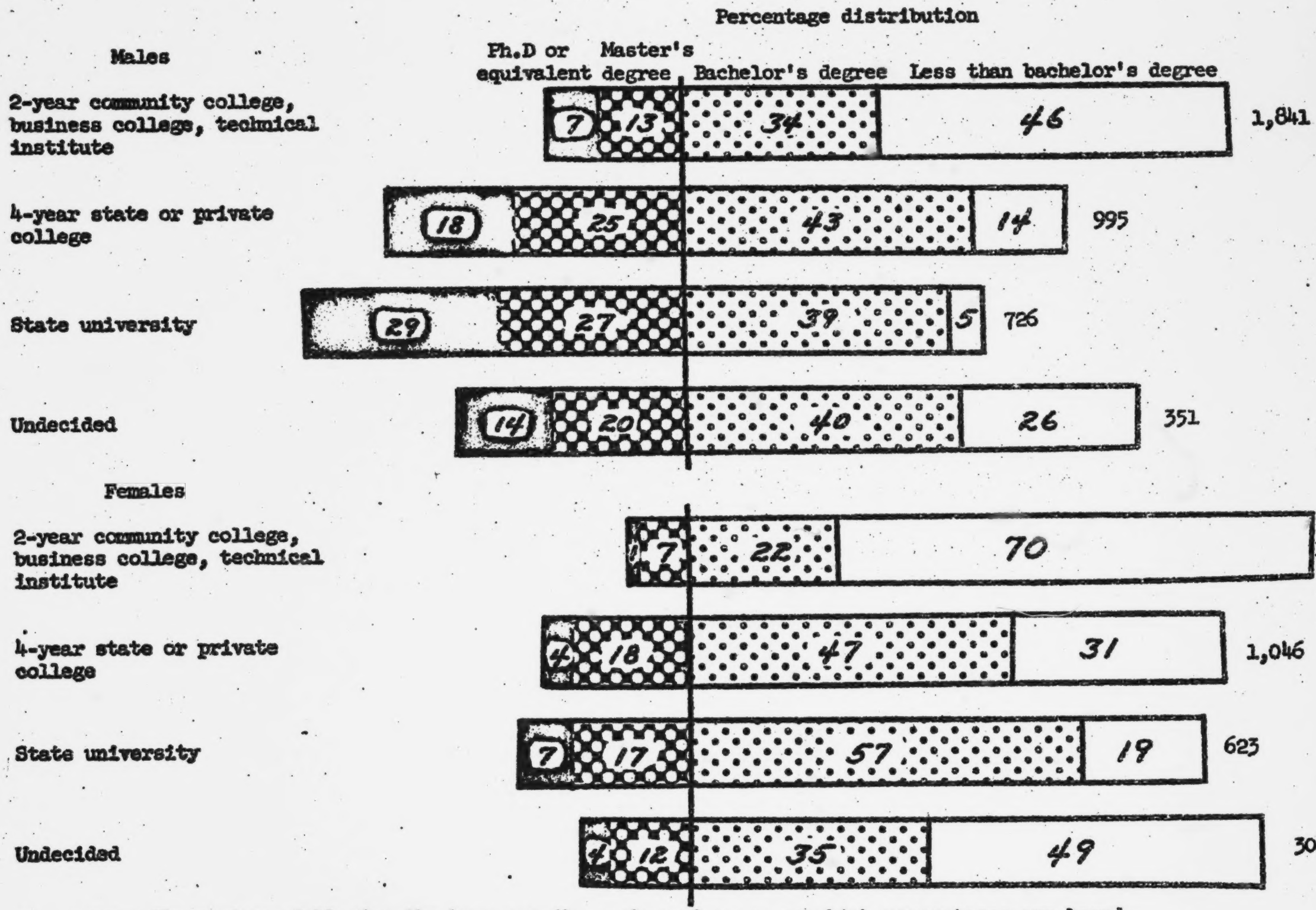
Anticipated Difficulties with College Study Habits among High School Seniors Planning to Attend Different Types of College Institutions, by Sex

Question: "How much trouble do you think you'll have in college with study habits and concentration?"



Note.--The numbers following the bars are the number of cases on which percentages are based.

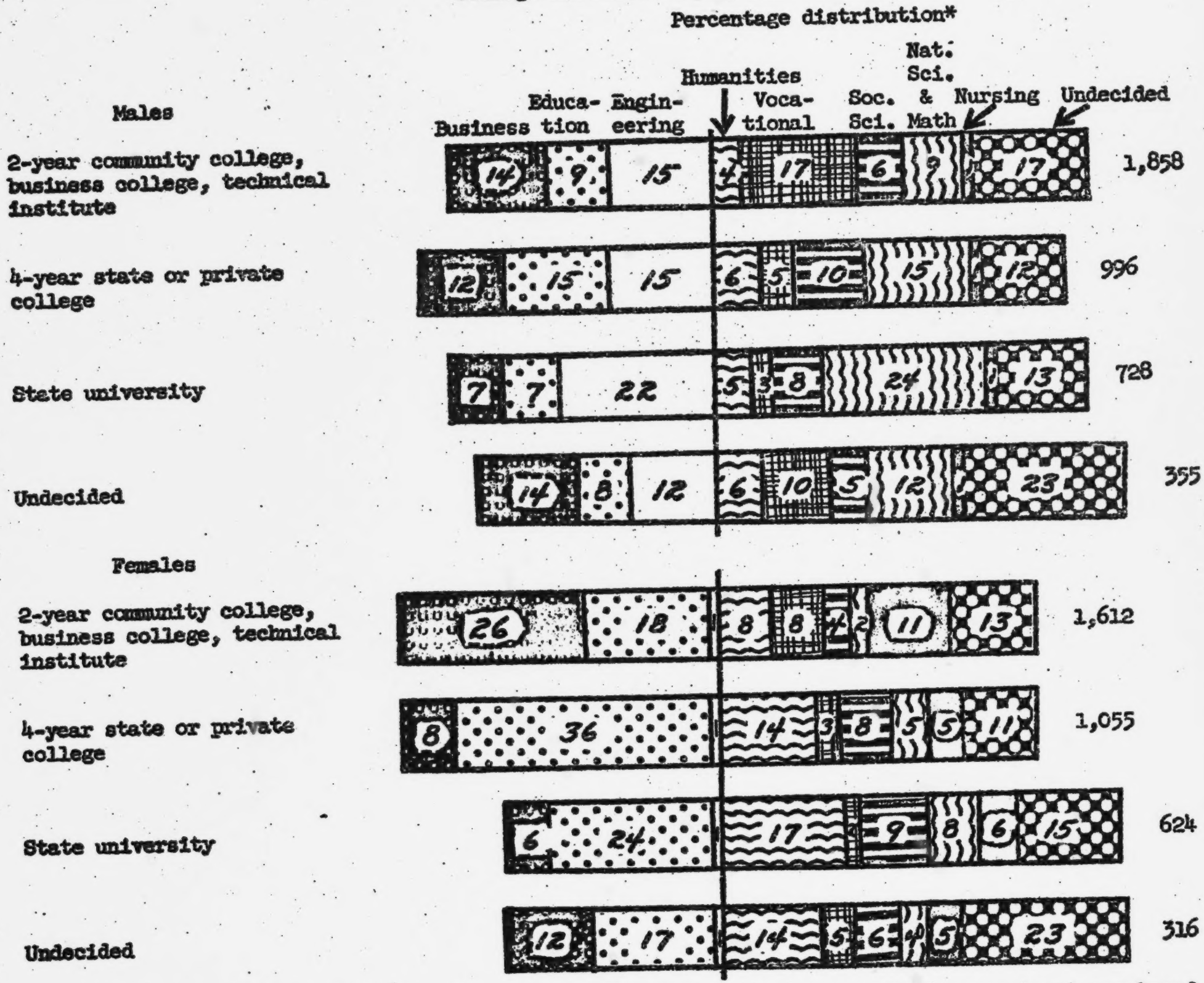
Educational Aspirations of High School Seniors Planning to Attend Different Types of College Institutions, by Sex



Note.--The numbers following the bars are the number of cases on which percentages are based.

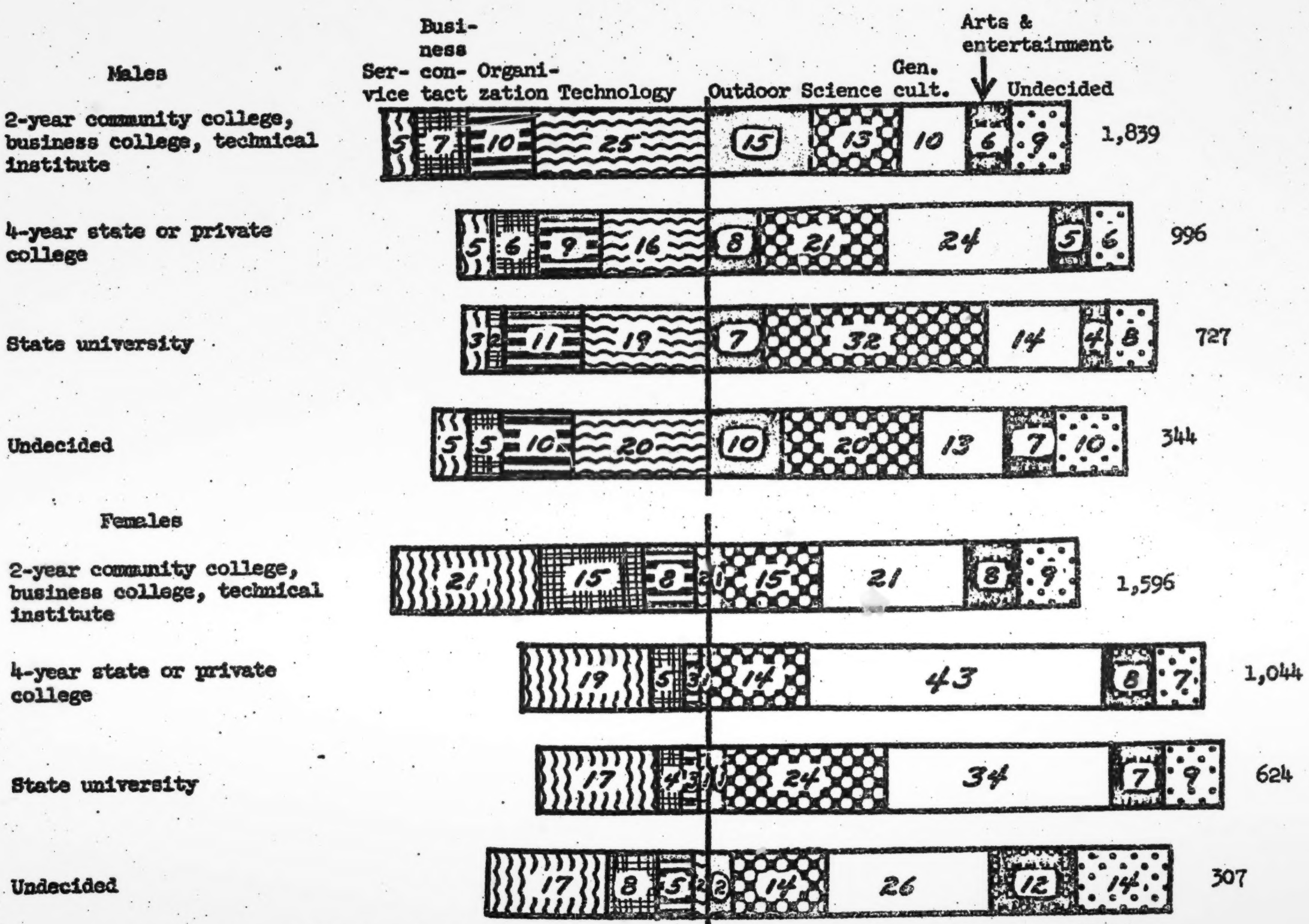
Chart 13

Major Course Expected to Follow in College among High School Seniors Planning to Attend Different Types of College Institutions, by Sex



Note.--The numbers following the bars are the number of cases on which percentages are based.
*Percentages do not add up to 100 because "other" was not included.

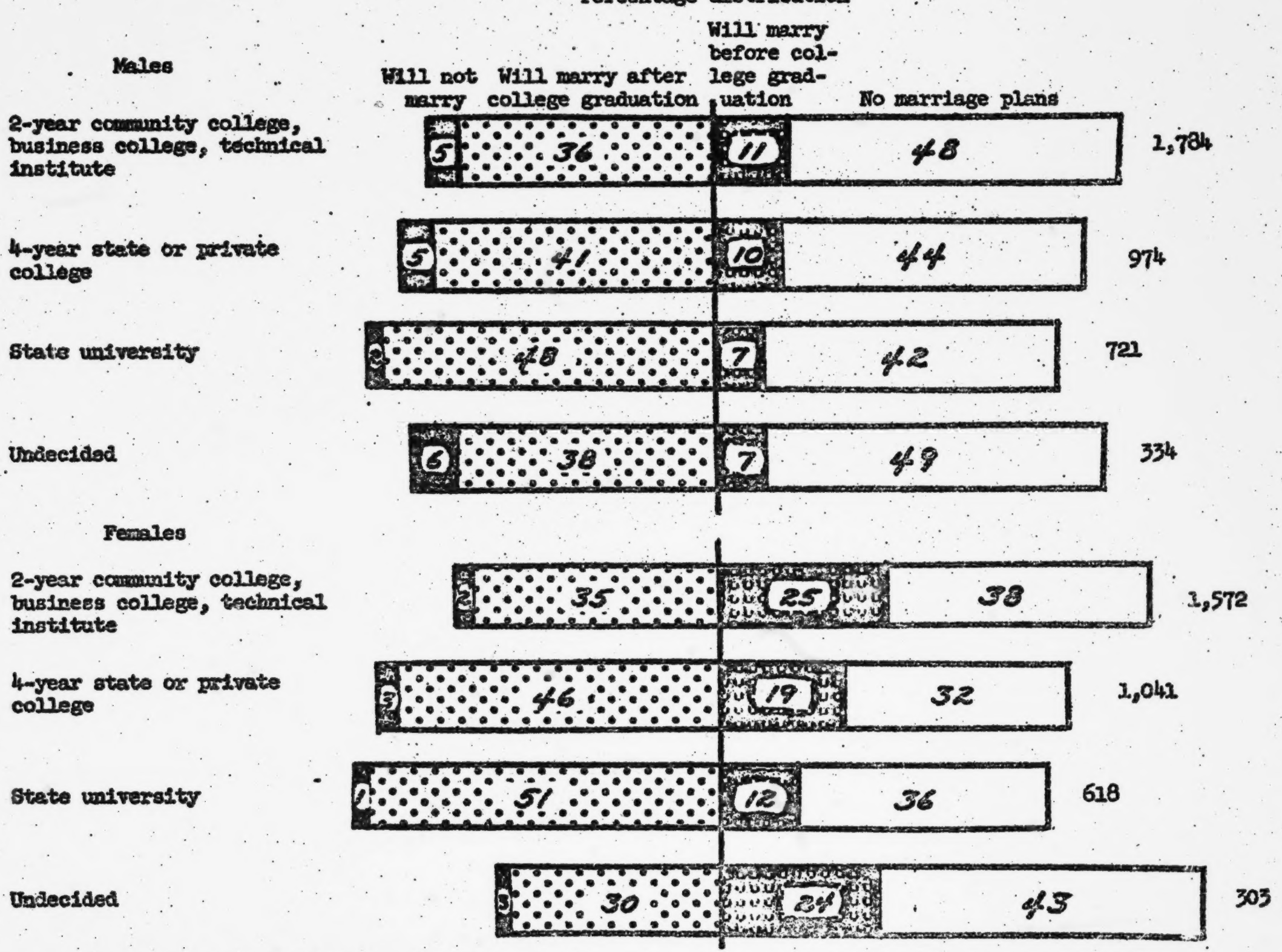
Occupational Choice among High School Seniors Planning to Attend Different Types of College Institutions, by Sex



Note.--The numbers following the bars are the number of cases on which percentages are based.

Chart 15

Marriage Plans of High School Seniors Planning to Attend Different Types of College Institutions, by Sex



Note.--The numbers following the bars are the number of cases on which percentages are based.